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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/069,412	02/25/2002	Keun-Hoon Yoo	12652-006US1	3263
26161	7590	11/10/2003	EXAMINER	
FISH & RICHARDSON PC 225 FRANKLIN ST BOSTON, MA 02110			MULLIS, JEFFREY C	
			ART UNIT	PAPER NUMBER
			1711	

DATE MAILED: 11/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/069,412

Applicant(s)

YOO ET AL.

Examiner

Jeffrey C. Mullis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

All remaining rejections and/or objections follow.

Claims 1-18 are rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The level of 15% of aromatic vinyl aromatic vinyl aromatic vinyl chain structure is not disclosed by the specification as filed but rather the specification as filed only refers to a level of alphas-methylstyrene units.

Applicants' level of 45% or less of aromatic vinyl aromatic vinyl cyanide vinyl cyanide chain structure is not disclosed by the specification as filed but rather only levels of alphas-methylstyrene instead of aromatic vinyl unit is disclosed by the specification as filed. The limitation that applicants' particle sizes are number average particle sizes is not disclosed by the specification as filed as recited in at least claim 2. The particle size of 600 Angstroms as recited in at least claim 12 is not disclosed by the specification as filed. These limitations are therefore new matter.

Claims 1-18 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

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The term "heat resistant" is relative and subjective and therefore unclear.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Padwa et al. (USP 5,910,538).

Padwa et al. disclose a molding composition containing a blend of ABS and a "compatibilizing agent". The ABS refers to an emulsion produced material at column 8 lines 1-4 while the "compatibilizer" refers to a polymer produced solution polymerization, embraced by applicants' mass polymerization

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produced heat resistant copolymer. Note column 8 lines 28-51 in this regard. Note also that the compatibilizer is produced in the presence of thioglycolate chain transfer agent. Since both patentees' and applicants' copolymer are prepared by mass polymerization using acrylonitrile and styrene using free radical initiation, it would reasonably appear that the characteristic of heat resistance as well as applicants' content of aromatic vinyl aromatic vinyl aromatic vinyl chain structure and aromatic vinyl vinyl cyanide vinyl cyanide chain structure, it would be inherent in Padwa's copolymer and in any case Padwa's compatibilizing copolymer would certainly be heat resistant compared to a copolymer having non-heat resistant units in it or less heat resistant units in it than that of Padwa.

When the reference discloses all the limitations of a claim except a property or function, and the Examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention, basis exists for shifting the burden of proof to applicant. Note In re Fitzgerald et al. 619 F. 2d 67, 70, 205 USPQ 594, 596, (CCPA 1980). See MPEP § 2112-2112.02.

Claims 1-11 and 18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Leitz et al. (USP 5,605,963).

Leitz et al. disclose a composition containing a blend of ABS polymers which is produced by emulsion polymerization referred to as polymer "A" and embraced by applicants' graft polymer "a" while patentees' polymer "B" would appear to be embraced by applicants' heat resistant polymer in that it contains styrene and acrylonitrile. Note the Abstract in this regard. While patentees' component "B" also contains a rubber such as polybutadiene, such is not excluded by applicants' claims. Furthermore, applicants' component "b" also embraces patentees' component "C". Note that patentees' component C is preferably produced by solution polymerization or mass polymerization at column 2 lines 55-67. Given the similarities of applicants' and patentees' processes, it would reasonably appear that applicants' and patentees' characteristics are inherently the same.

When the reference discloses all the limitations of a claim except a property or function, and the Examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention, basis exists for shifting the burden of proof to applicant. Note In re Fitzgerald et al. 619 F. 2d 67, 70, 205 USPQ 594, 596, (CCPA 1980). See MPEP § 2112-2112.02.

Applicants' arguments filed 8-11-03 have been fully considered but they are not deemed to be persuasive.

Applicants allege that their particle size distribution as recited in claim 2 would have been understood to be number average particle size. However particle size distributions may be expressed in other ways than number average particle size distributions. With regard to applicants' limitation of less than 15% of aromatic vinyl aromatic vinyl aromatic vinyl chain structure, the passage cited by applicants in their specification only refers to alphas-methylstyrene units, not broadly aromatic vinyl aromatic vinyl aromatic vinyl chain structure. With regard to claim 18, the Examiner has reviewed page 9 lines 4-5 and page 16 line 28 but again the only place where the figure 45% is present only pertains to alphas-methylstyrene.

With regard to claim 12, the size of 600 Angstroms did not appear in claim 12 as filed.

With regard to the term "heat resistant", ASTM has numerous methods and it is not clear which method applicants are referring to. Furthermore, it is not clear if the method applicants are referring to merely provides a method of quantitating heat resistance or not. If so, it would still be unclear as to what quantity of heat resistance would be embraced by applicants' term "heat resistance".

With regard to the prior art rejections, it is true that the Examiner can find no explicit recitation of applicants' level of aromatic vinyl aromatic vinyl aromatic vinyl aromatic chain structure.

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However due to the similarity of applicants' and patentees' mass polymerization processes (i.e. both conducted via mass polymerization using free radical initiation) as well as the fact that applicants' Examples show levels of vinyl aromatic vinyl aromatic vinyl aromatic far far below the upper level of 15% of the claims, it is presumed that patentees' processes inherently produce materials having applicants' level of vinyl aromatic vinyl aromatic vinyl aromatic chain structure.

Applicants' substitute specification has been entered.

Applicants' amendment necessitated the new grounds of rejection. Accordingly, **THIS ACTION IS MADE FINAL**. See M.P.E.P. § 706.07(a). Applicants are reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a). The practice of automatically extending the shortened statutory period an additional month upon the filing of a timely first response to a final rejection has been discontinued by the Office. See 1021 TMOG 35.

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE

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PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey Mullis whose telephone number is (703) 308-2820. The examiner can normally be reached on Monday-Friday from 9:30 to 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck, can be reached on (703) 308-2462. The fax phone number for this Group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-2351.

J. Mullis:cdc

November 6, 2003

Jeffrey Mullis
Primary Examiner
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